TROX
ARCHITEC
TURE
AWARD

FOCUS DESIGN

600 x 600 mm

1 mm STRENGTH

30-50%
FREE
CROSS-SECTION

DESIGN OF A FRONT PANEL FOR A XARTO CEILING DIFFUSER

TROX GmbH invited entries for their first architecture award at the end of 2014. Under the title **FOCUS DESIGN**, it was called for architects and expert planners to work on the design of a front panel for a ceiling diffuser. Thanks to the use of intelligent technology, the functionality of the **XARTO ceiling diffuser** is independent of its front panel design.
This provides architectural offices the opportunity to deal with the issue of design quality on ceilings.

The submission period began in October 2014 and ended with the meeting of the jury in December 2014.

„At his Architecture Biennale, Rem Koolhaas concentrated on ceilings, among other things, as an architectural element: visitors entered a domed hall where one half of the ceiling consisted of a standard office ceiling. Designed as a cross-sectional model, it presented above its covering the full range of technical necessities that are nowadays inherent in a modern building: cables, hoses, and pipes with various dimensions and uses. Very little of the ornamental dome fresco remained visible.

This ironic juxtaposition naturally poses the question to the viewer of how much room is left at all for design and ornamentation in a modern building in the face of its technical constraints. The TROX Architecture Award intends to answer this question by concentrating especially on those building elements that designers often pay little attention to: architects and expert planners are called upon to design a front panel for the XARTO ceiling diffuser.
Thanks to the use of intelligent technology, the panel design is independent of functional requirements, thereby offering a broad range of options. Even if it is only a small component of the entire architectural spectrum: those who have seen Koolhaas's installation know that he deserves a lot more attention.“

Prof. Dr. Alexander Gutzmer

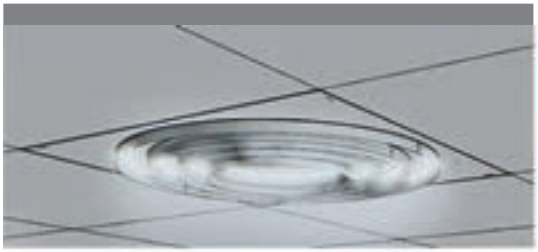
Editor In Chief of the architecture magazine BAUMEISTER
Editorial Director Callwey Publishing.

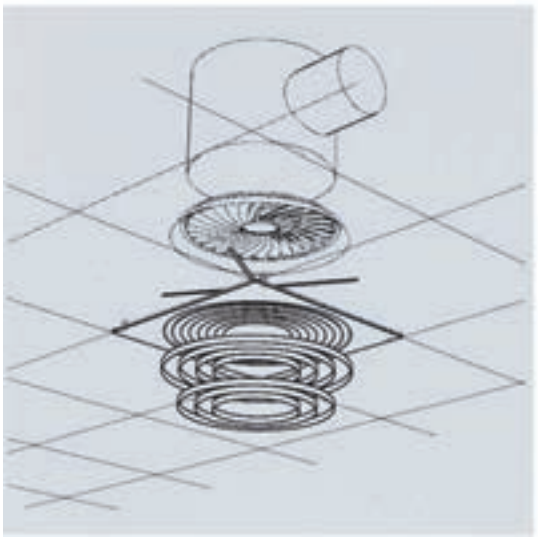
THE SUBMISSIONS

FOCUS DESIGN | SUBMISSIONS

TROXIBLE

Drees & Sommer Advanced Building | Munich, Germany



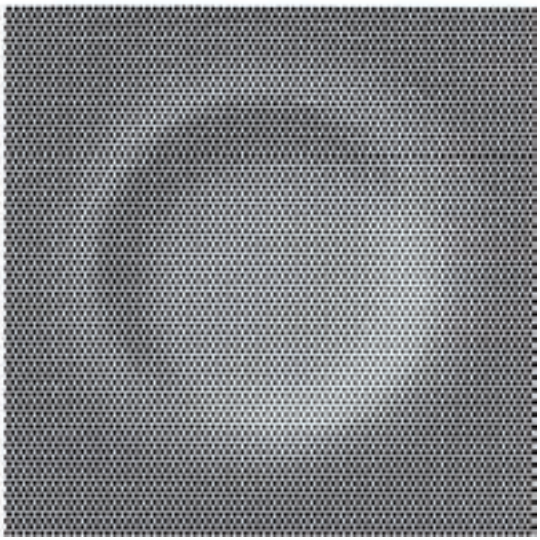


The design idea is based on expanding the functionality of the air diffuser, and stepping out of the 2D into the 3D level. In addition to the existing element, rings are fitted to the cover plate to enable different room depths. When it came to geometry, a circle was chosen, which for its uniformity is to create a steady element that is not perceived as disturbing in the overall view of the room. At the same time, it is attempted to emphasise the air diffuser as a design element, thereby creating a harmonious atmosphere in the room.

www.dreso.com

IMPULSE

Hadi Teherani AG | Hamburg, Germany



We are convinced that every single architectural detail is important. A homogeneous overall impression can only be achieved if the individual components successfully complement each other. At the same time, every element assumes different functions. A ceiling diffuser is a very functional product. We intended to design the surface in such a way that it obtains something of a "narrative", something emotional. We basically gave the surface an impulse so that the viewer realises that the surface is not passive, but breathing.

www.haditeherani.de

BANKETT

Design Studio Kirchner | Berlin, Germany

www.architekt-kirchner.de

BREEZE

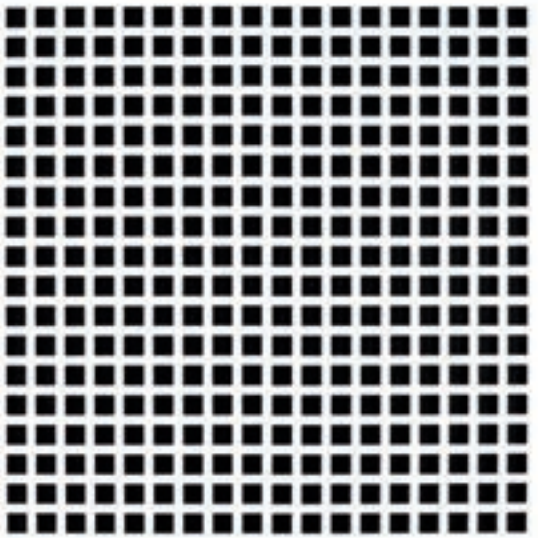
Architectural Office Shahverdi | Dortmund, Germany

Our goal was to develop a front panel with clear shapes that can be used for office and domestic purposes in connection with the technology provided by TROX and, with its striking design, can be integrated harmonically into the room: a "breeze" coming from all points of the compass. It begins with a circle as a symbol of wholeness and goes on to an 8-ray star as a symbol of unity. The black stripes create a free cross-section of 37% of the surface. The entire design was adapted to the technical requirements with regard to its form and features.

www.architekt-shahverdi.de

QUATTRO LINE

engineering office LESH | Haunsheim, Germany



www.lesh.de

THE BUMP

OTT-DESIGN | Herford, Germany

THE BUMP does not offer a new graphically designed perforated structure. This innovative cover also offers a largely visible design in addition to the necessary cross-sections, and a new level of acceptance for planners. Its curvature furthermore enables new airflow directions, the effects and implementations of which we did not pursue any further. With an optionally integrated LED display, the respective OFF/ON functions or the hot/cold output can be displayed. Depending on the model (sheet metal, plastic or composite material), the surfaces of THE BUMP can be painted, are finely structured, or to be coated with foil (B1).

www.ott-design.de

GARDEN AMBIENCE

Heyroth & Kürbitz Architects | Hamburg, Germany

As an alternative to the existing, quite geometrical shapes, we have chosen a deliberately asymmetrical, seemingly random composition of shapes reminiscent of blossoms and branches. The reduced design consisting of lines and circles leaves a lot of room for different interpretations for the viewer; for example, it feels as if one is looking into a treetop or as if the wind is blowing through blossoms and branches. The front panel can be integrated into a ceiling design as an independent design element, as shown on the basis of a design model from one of our projects. The overall impression is harmonious; the technical components are visible but integrated aesthetically into the design concept.

www.hkfa.de

KRISTALL

Architectural Office Hölzle | Müllheim, Germany

Design idea: snow crystals in versatile forms, or floral and other natural patterns in different forms - depending on the requirements.

www.architekt-hoelzle.de

FLOW & SPRAY

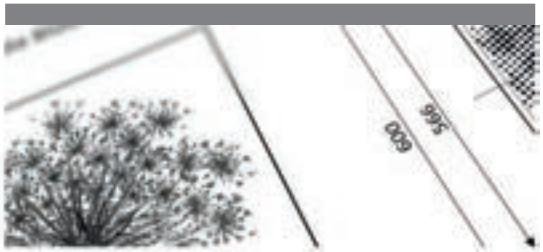
yes architecture | Munich, Germany

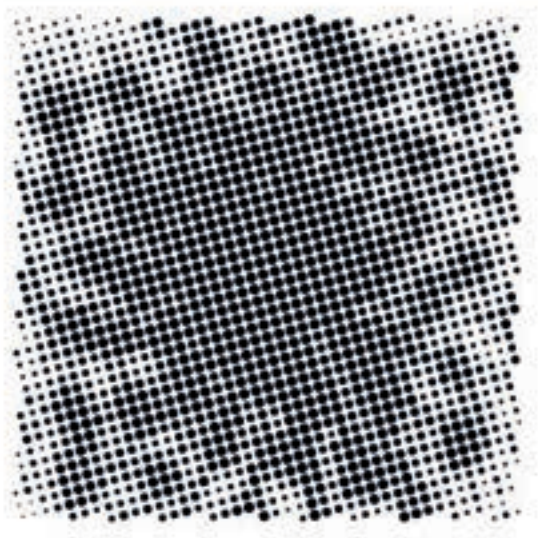
Spray is a parametrically created perforated pattern inspired by spray technology. The intensity and size of the perforations follow visible lines along the base plate. The result is a dynamic, fragmented diffusion of the elements.
Flow is a parametrically created diamond pattern inspired by the flow of air in a room. Currents and swirls are created. The result is a dynamic, flowing movement over the base plate that still shows different intensities.

www.yes-architecture.de

DAUCUS

donhauser postweiler architects | Stegen, Germany



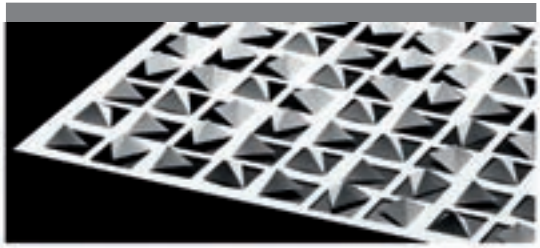


The idea: …something organic, not a technical structure. The basis: Daucus Carota, the carrot's flower umbel. The design model: abstraction of the flower umbel on a matrix with a width of 14mm and a web width between the matrix dots of at least 2mm. The free geometric cross-section amounts to 38% over the total area. The requirement of the airflow being as steady as possible has been observed; all four quadrants have a free cross-section of 38%.

www.dopo-architekten.de

TRINITAS

Gerber Architects | Dortmund, Germany



The front panel consists of 100 square sections. Leaving a rigid matrix, these are aligned facing one another in the direction of the respective arrows. The free geometric cross-sectional area amounts to 30%, but can be varied by changing the size and number of squares. Furthermore, the triangular area can conceivably be perforated, which would make it possible to control the direction of the air outlet. Along the cutting edges, the cut-out is created by means of a laser. For the 3D version developed for the design model, the plastic arrow structure is created through a triple folding.

www.gerberarchitekten.de

X^2 in & out

Ludwig Architects | Köngen, Germany

The basic idea: combining the air outlet with additional applications in a multi-functional area, creating a simple yet elegant and timeless design. The air outlet runs along the outer edges of the 60x60cm base plate in the form of a narrow slot. This results in a multi-functional island framed by the ventilation slots. It is designed as a closed box into which other functions can be integrated. If the construction height of the suspended ceiling is not sufficient, it is also possible to allow the air outlets to protrude from the ceiling. This way, the air outlet becomes a simple square attachment element.

www.ludwig-architekten.de

ZWEI D

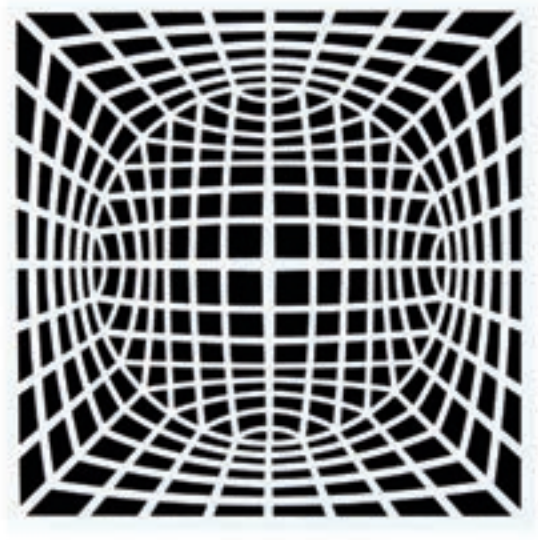
peter glöckner architecture | Munich, Germany

We believe that the basic design of the XARTO ceiling diffuser can be integrated into the ceiling very well from a visual point of view – also and foremost without a cover in the form of a front panel of any kind whatsoever. We have therefore looked into the possibility of transferring the three-dimensional XARTO design as well as the three-dimensional air currents/swirls etc. into the two-dimensional level in different ways.

www.gloeckner-architektur.de

Kreis²

Lichtektur | Berlin, Germany



The design completes a graphical transformation from a square to a circle, and back again, in a grid-like structure, which results in corresponding numbers and sizes of openings. Omitting the outer part leads directly to the graphical outline for a round diffuser outlet opening. The well-proven (hygienic and low-cost) steel or aluminium sheet would be a suitable material; however, a white or coloured Corian design, for example, could also convey the sense of a special quality - particularly in old buildings - while still being easy to clean. In the sense of a clean and tidy ceiling, it is worth considering whether integrated LED strips, in certain partitions, could take over the function of emergency lighting.

www.lichtektur.de

TROX CUSTOMIZE

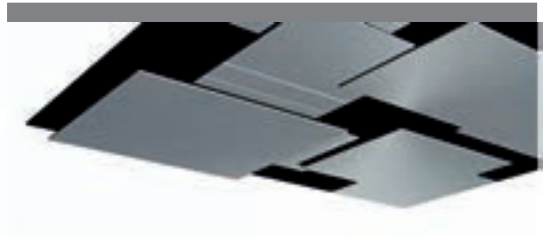
raumspielkunst | Stuttgart, Germany

"Customised design" has become the foundation of successful business models. Our idea is to contribute not a graphical design but instead a concept for a reorientation of the TROX corporate culture. Personalised designs or private design collections are to be integrated into the production flow, which would make TROX a pioneer when it comes to the "customised ceiling diffuser 2.0". Thanks to the additional integration of energy recovery (turbine) and control lamps (LED), the aspect of energy consumption is visualised, and users can feel the positive effects in their everyday life. What we want to achieve is an important contribution to the reduction of energy consumption.

www.raumspielkunst.com

+ Licht

planning office i21 | Rüdesheim/Nahe, Germany



The basically flat panel performs an emotional and dimensional transformation, keeping its basic function as a ventilation system, while being supplemented for a new function: indirect lighting with an emergency lighting function. Several rectangles consisting of zinc sheets, which can be coated and which are superimposed upon one another, form the spatial structure of the terrace structure, over which the ventilation can flow. The air enters the room where the respective mounting bars are located. On the other side of the mounting bars, the power LEDs are arranged, creating indirect lighting effects, breathing new life into the lifeless panel, and playing about the adjacent ceiling surface.

www.innenarchitektur21.de

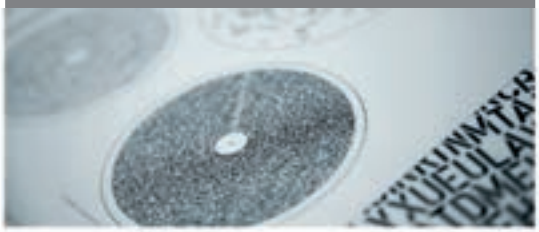
ZWISCHENRAUM

null2elf interior designers | Düsseldorf, Germany

www.null2elf.de

777/666

COCAGE JKPD | Berlin, Germany



Letters and words! The openings of the front outlet are created by perforations shaped like letters. A simple computer script generates a random sequence of letters, with the frequency of the respective letters being the same as for a normal text (i.e. an "E" is more frequent than a "Y"). In this jumbled potpourri of letters, single random words are created automatically. In a second design step, some order is imposed on the chaos. Individual words thus become visible. The design roughly follows the old saying: "Those who watch the clouds long enough will see more and more things in them."

www.cocage.de

Struktur

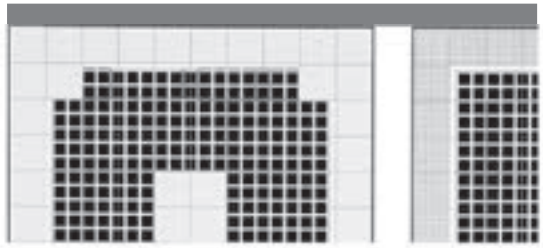
Domogalla Textile Design | Stuttgart, Germany

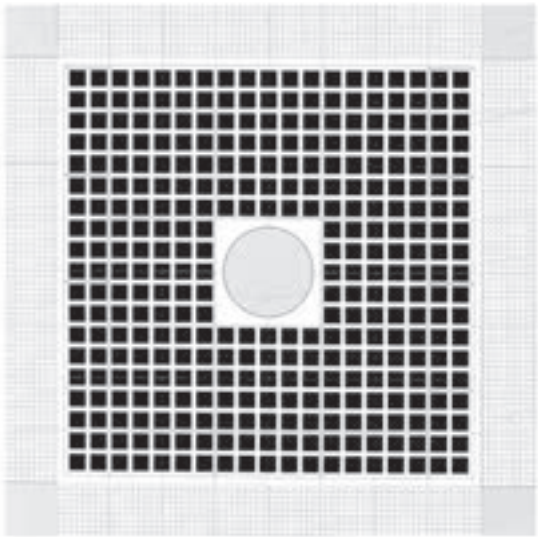
This design model is inspired by web structures from chemical bonding theories: a homogeneous structure that could also be developed further into a bar code. This enables an individual design as well as the communication of messages. I can see this design model being used in museums, for example. The engraved visual effects create an ornamental graphical design. In my eyes, the combination of timeless ornamentation leads to functional aesthetics.

www.domogalla-textildesign.de

Modulo_XARTO

Ursula Theissl, freelance architect | Vienna, Austria





theissl@aon.at

FLORIS & IRIS

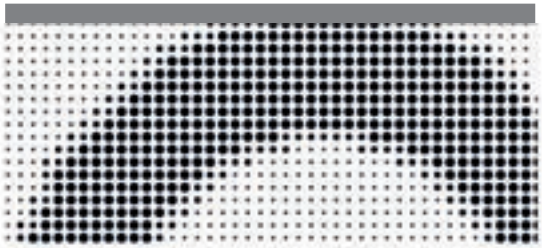
Architectural Office Strauß | Graz, Austria

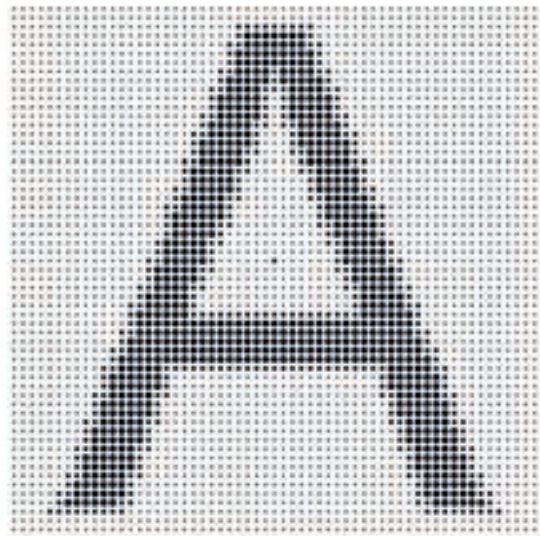
The iris of the eye is the window to the world of seeing. Magnified, it seems like an abstract flower. The idea was to find a floral design that does not make a technoid impression but integrates itself into the ceiling design as a decorative image. The dynamics of the airflow are represented in the motif, without concentrating too much on the centre.

www.architekt-strauss.at

info@decke

Schlotfeld, Hahn & Partner | Hamburg, Germany



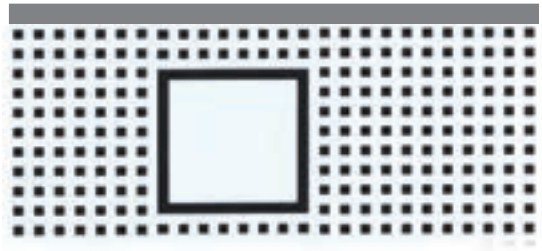


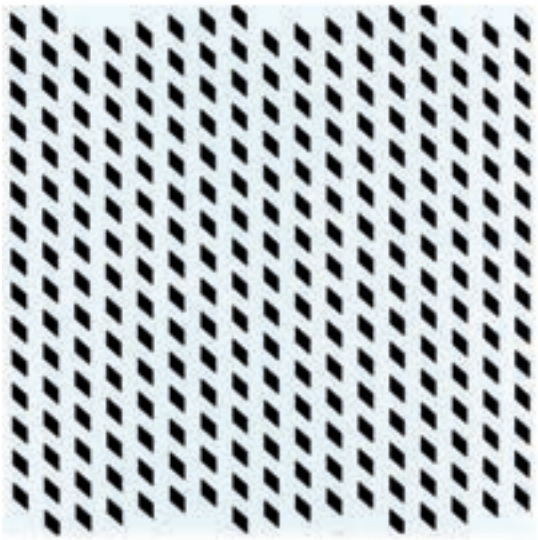
In the interaction with other technical elements, ceilings can make a very uncomfortable impression and are often a thorn in the side of architects. This is why, in our view, there can only be two options: 1. the visual disappearance (which is precisely what fails in an attempt at "sweet little nothing".), or 2. the clear design and deliberate presentation of the air diffuser. We recommend option 2. In the three approaches to a solution, the air diffusers are used as a design element with the option of transporting information. Through a perforated profile with three different hole diameters, the cover becomes an information carrier.

www.shp-design.de

SIRIUS/WAVE

Studio KUNST.BAU.WERK | Friedrichshafen, Germany



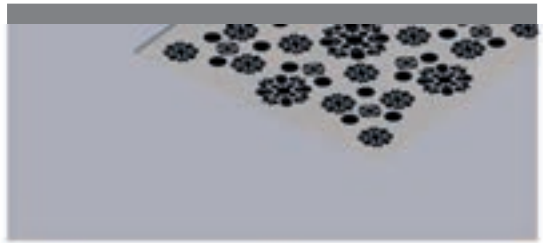


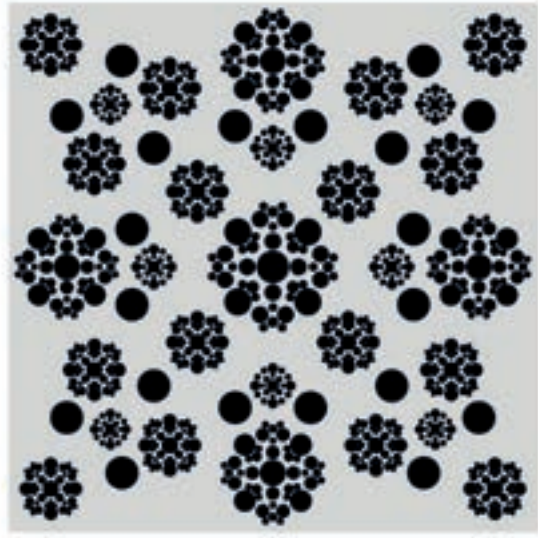
The design models Sirius and Wave combine a modern, reduced and clear design with a cross-section that has been optimised in terms of ventilation. It is as uniform as possible and, at its centre, offers an area for an optional integrated installation of sensors, smoke detectors, or lamps. The Sirius ceiling diffuser model offers a module that integrates/meets the most versatile requirements (fire protection, lighting, ventilation).

andrea_fuchs@icloud.com

ELEMENT

DI. Christian Koppensteiner | Perchtoldsdorf, Austria





Our main design model has a free cross-section of 30%. Based on the design model, the design can be varied in terms of the number and size of air-permeable objects. The panel is 1mm thick but can also have a second dimension, depending on the desired design. Individual circles can be raised or indented, with either the same or a contrasting material or colour. The visual panel design stays the same but the impression it makes is different, which is a decisive factor when it comes to design.

www.koppensteiner.co.at

THE WINNERS

FOCUS DESIGN | PLACE 1 - 3

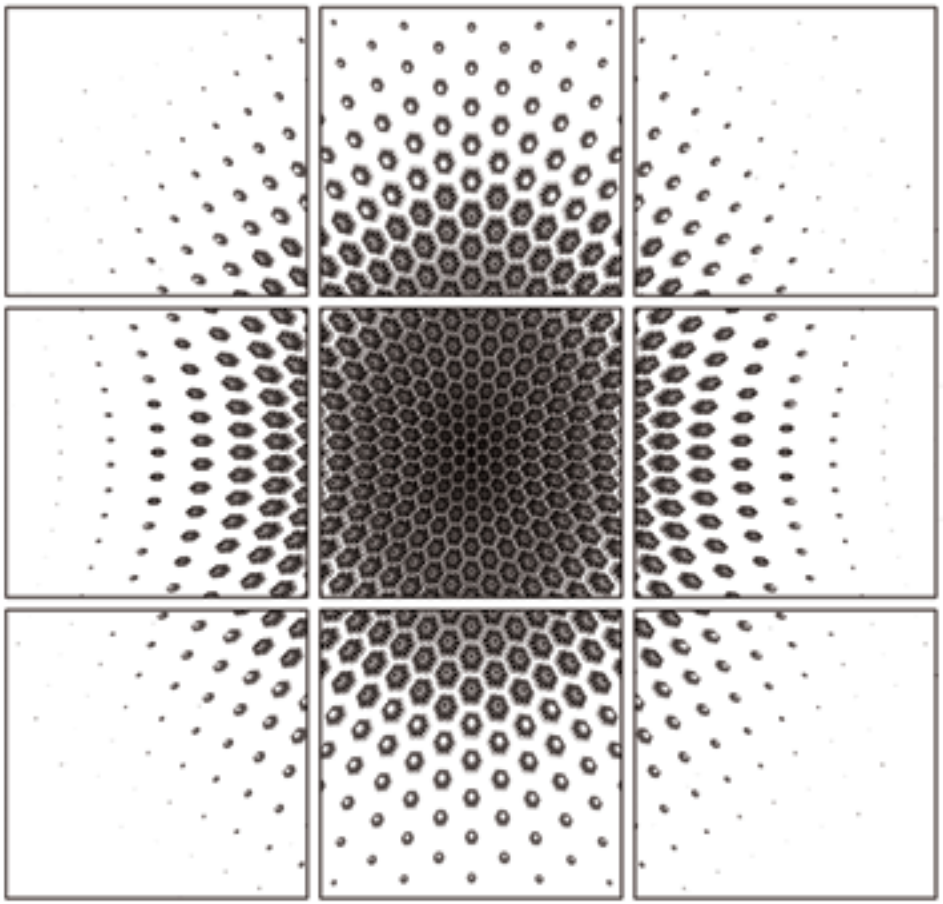
1st PLACE

OP ART X

one fine day

Düsseldorf, Germany

www.o-f-d.net



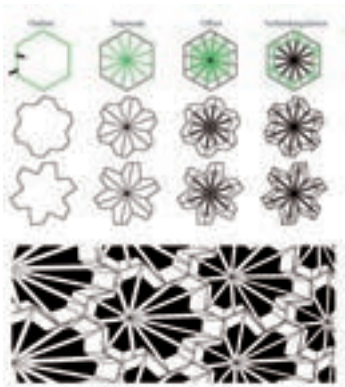
OP ART X

one fine day | Düsseldorf, Germany

CONSISTENT INTEGRATION.
The modular ceiling equipped with technical applications is more of an unwelcome necessity than a deliberately designed surface. However, there is a lot of design potential in the integration of the individual technical systems. We therefore recommend looking at the ceiling design from a holistic point of view.

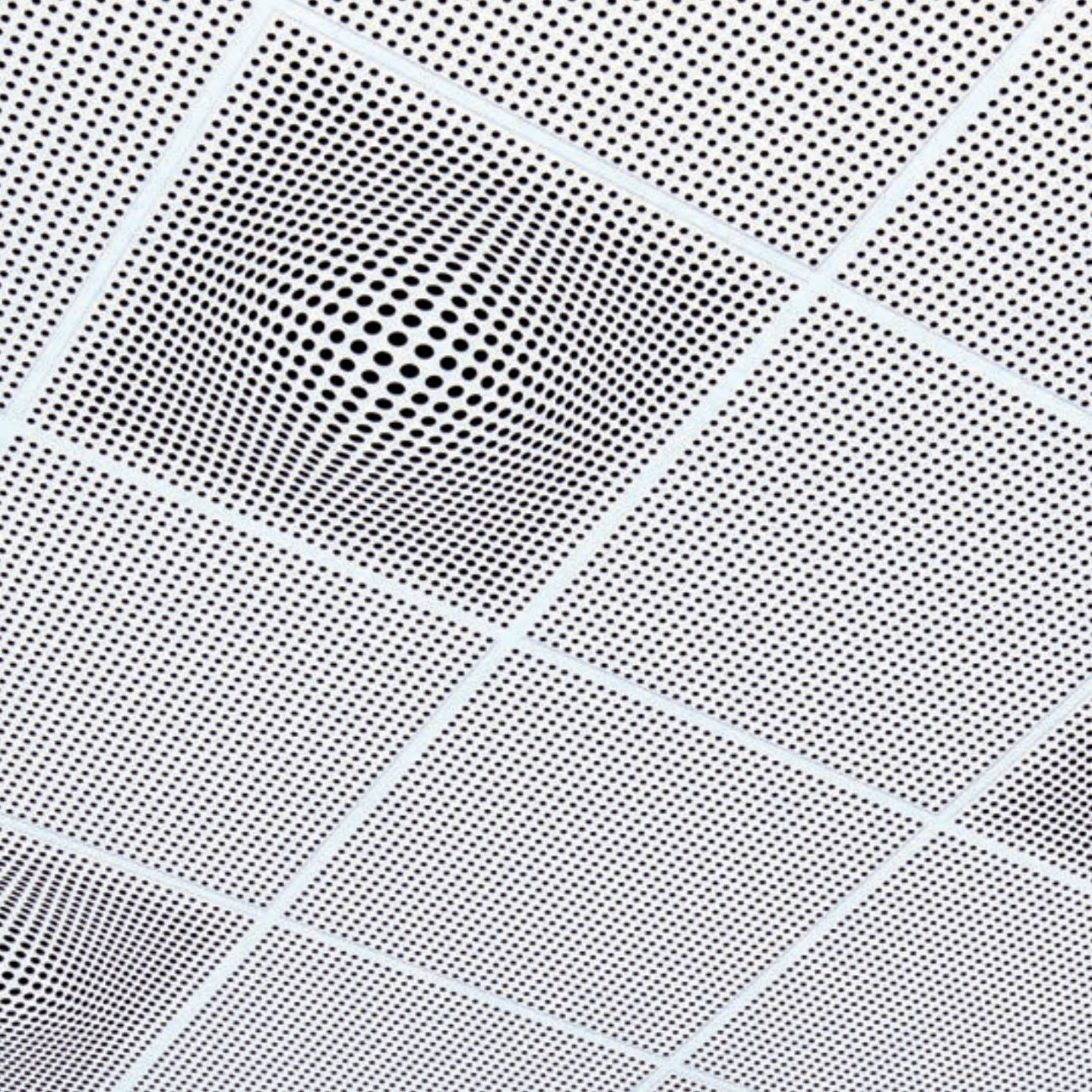
INTEGRATION.
The ceiling diffusers and lighting elements, which have made the impression of singular points in the modular ceiling until now, are transformed and thus integrated through a pattern that is based on both technical requirements and creativity.

2D/3D.
We have developed a perforated pattern that makes different three-dimensional impressions. This pattern transforms a hexagonal grid into star-shaped objects. Lines are engraved next to the openings, which increases the 2D/3D effect.



www.o-f-d.net

One fine day: the office for architectural design was founded in 2009 as an architectural office with a clear focus on design. Since then, our works have been published and exhibited, and have won awards all around the world. The name "one fine day" stands for the positive attitude, the idealism, and the ambition, which is necessary to be able to develop architecture going beyond standard solutions. What is important to us is to enjoy the speculative, unknown, and exciting aspects of architecture as an international and intercultural discourse.



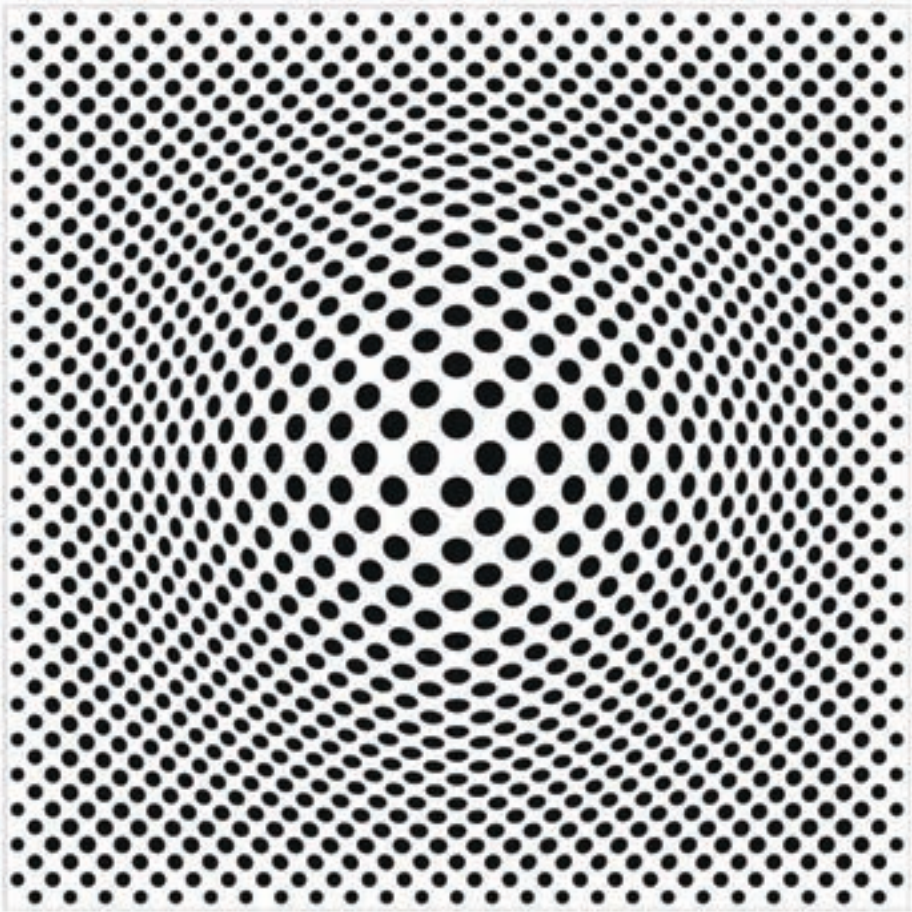
2nd PLACE

BLOW-OP

ID AID

Stuttgart, Germany

www.idaid.com



BLOW-OP

ID AID | Stuttgart, Germany

HUMAN BEINGS AS THE YARDSTICK: USER EXPERIENCE DESIGN

The present concept treats a design approach that gives a formal, three-dimensional expression to the function of the air diffuser, despite the limitations of its two-dimensional surface and its perforations. The pattern creates "tectonics" that makes a semantic statement to the user. The perforated pattern in the air diffuser visualises the air current and thus its function. At the same time, the pattern blends in with the corresponding ceiling panel from a logical and integral point of view.

BLOW-OP 1:
uses the perforated pattern in a diagonal orientation.

BLOW-OP 2:
uses the perforated pattern in an orthogonal orientation.

www.idaid.com

ID AID – the name says it all. ID stands for both industrial design and (brand) identity; AID means help/support/advice, and also "Architecture and Interior Design". Support with product design, corporate brand architecture and strategy, as well as corporate design – this is how the extensive portfolio of the Stuttgart-based design company ID AID can be summarised. The five-member team supporting the founder and director, Sven von Boetticher, develops chairs, lamps, sports equipment, machine housings, and ecologically friendly packaging, but also exhibition stands and architectural products for well-known manufacturers. The goal is always to combine passion with quality and innovation with sustainability. Among the clients of ID AID are Zumtobel, the Nimbus Group, Interstuhl, Mitsubishi Electric, Smart, or Bosch Rexroth, to name just a few. Since its founding in 2011, the design company ID AID has won several prestigious design awards.

3rd PLACE[1]

XARTO AIR 3D

HPP ARCHITECTS

Düsseldorf, Germany

Hentrich-Petschnigg & Partner GmbH + Co. KG is one of Germany's leading architectural partnerships and for more than 80 years, it has been implementing ambitious construction projects of various kinds and sizes, both in Germany and abroad. The field of HPP's activities comprises all services with regard to architecture, interior design, and general planning - mainly in the areas of corporate headquarters, office and administrative buildings of the public authorities, hotel and housing construction, hospital construction, sports and recreational facilities, cultural buildings, shopping centres, buildings for education and research, industrial buildings, transport facilities, urban development, redevelopment, and the preservation of sites of historic interest. The Düsseldorf-based architectural partnership was founded by professor Hentrich in 1933 and is now in its fourth generation, with 12 different office locations and approx. 330 employees, both in Germany and abroad. The company attracted worldwide attention when it won the "EXPO Village Shanghai" and "Europe Tower Sofia" competitions. HPP Architekten is headquartered in the Düsseldorf Medienhafen (media harbour), with additional offices in Berlin, Frankfurt, Hamburg, Cologne, Leipzig, Munich, Stuttgart, Istanbul, Shanghai, Sofia, and Washington.

XARTO AIR 3D

HPP Architects | Düsseldorf, Germany

By virtue of the special design of the two-dimensional surface, the viewer's focus is shifted to a design element, which usually receives little attention. Normally, the shape of the perforated surface of the ceiling diffuser is designed in a strictly geometrical or radial way. Through the perspectival arrangement of different hole sizes, the TROX-XARTO-AIR-3D gives the ventilation element a spatial, thus three-dimensional effect. At the same time, the kinetic effect emphasises the dynamic element of the air. Meanwhile a free cross-section of between 30% and 50% can be transferred to the perforated pattern precisely according to the technical specifications. As regards product development, a series of kinetic and visual perforated patterns for ventilation elements is feasible. The development could ultimately result in a uniform ceiling system integrating the TROX-XARTO-AIR-3D and other technical elements such as lamps, fire detectors, and loudspeakers, as well as acoustic ceiling elements. This would present a holistic approach to room architecture.

www.hpp.com

3rd PLACE²

Zugvögel

BERGHOF & HALLER ARCHITECTURE

Frankfurt/Main, Germany

Zugvögel

BERGHOF & HALLER ARCHITECTURE | Frankfurt/Main, Germany

The geometric image structures resulting from the circle and the square form the logical basis for the existing high-quality front panel design. Our research started with the optical phenomena that can be found in Vasarely's op art. Based thereon, the idea of a view was developed. The object of observation in the view satisfies the desire for nature. This brought us to the idea of a flock of birds. For the purpose of the artistic alienation of the image, we deliberately referred to the demonic aspect, as illustrated in Hitchcock's film, "The Birds".

www.berghof-haller.com

THE JUDGES OF THE TROX FOCUS DESIGN AWARD

Elected chairpersons of the jury

1. Dipl. Ing. Corinna Kretschmer-Joehnk | **JOI-DESIGN** Hamburg, Germany
2. Prof Tobias Wallisser | **LAVA** Stuttgart, Berlin, Germany

Technical jurors

3. Dipl. Ing. Burkhard Fröhlich | **DBZ** Gütersloh, Germany
4. Prof Dr Alexander Gutzmer | **BAUMEISTER** Munich, Germany
5. Dipl. Ing. Alfred Schelenz | **Capricorn** Düsseldorf, Germany

Client and local community jurors

1. Prof Dr Dirk Müller | **TROX GmbH**
2. Wilhelm Mayer | **TROX GmbH**

TROX® TECHNIK

The art of handling air

INITIATOR OF THE COMPETITION

TROX is leading in the development, manufacture and sale of components, units and systems for the ventilation and air conditioning of rooms.
With 30 subsidiary companies in 30 countries on 5 continents, 14 production facilities, and importers and representatives, TROX is present in over 70 countries. Founded in 1951, the world market leader, whose TROX GROUP International Head Office is in Germany, is expected to generate in 2014 with a total of 3,700 employees around the globe revenues of nearly € 500 million.

TROX GmbH
Heinrich-Trox-Platz | 47504 Neukirchen-Vluyn, Germany

www.trox.de

MEDIAPARTNERS

DBZ Deutsche BauZeitschrift

BAU MEISTER

domus DEUTSCHE AUSGABE

CONCEPT & ORGANISATION

ap35 Architecture Management & Relationship Marketing

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